

Amendments to the Claims:Claim 1 (currently amended):

A method of controlling or inhibiting an insect which comprises contacting said insect with effective amounts of a Protein A, a Protein B, and a Protein C, wherein:

- (i) each of said Proteins A, B, and C is encoded by a naturally occurring gene or has an amino acid sequence that retains functional activity and that differs from the product encoded by a naturally occurring gene only by truncation or by conservative amino acid changes;
- (ii) said Protein A is a 230-290 kDa toxin complex insect toxin that is derived from a first taxonomic species, has stand alone insecticidal activity, and has an amino acid sequence at least 40% identical to a sequence selected from the group consisting of SEQ ID NO:14 (XptA1Xwi), SEQ ID NO:34 (XptA2 Xwi), SEQ ID NO:21 (TcdA), SEQ ID NO:62 (TcdA2), SEQ ID NO:63 (TcdA4), and SEQ ID NO:59 (TcbA);
- (iii) said Protein B is a 130-180 kDa toxin complex potentiator having an amino acid sequence at least 40% identical to a sequence selected from the group consisting of SEQ ID NO:22 (TcdB1), SEQ ID NO:45 (TcdB2), SEQ ID NO:56 (TcaC), SEQ ID NO:18 (XptC1<sub>Xwi</sub>), SEQ ID NO:49 (XptB1<sub>Xb</sub>), SEQ ID NO: 40 (PptB1(orf5)), and SEQ ID NO:60 (SepB);
- (iv) said Protein C is a 90-120 kDa toxin complex potentiator having an amino acid sequence at least 35% identical to a sequence selected from the group consisting of SEQ ID NO:25 (TccC1), SEQ ID NO:58 (TccC2), SEQ ID NO:47 (TccC3), SEQ ID NO:64 (TccC4), SEQ ID NO:57(TccC5), SEQ ID NO:16 (XptB1<sub>Xwi</sub>), SEQ ID NO:51 (XptC1<sub>Xb</sub>), SEQ ID NO:43 (PptC1 (orf 6 long)), SEQ ID NO:42 (PptC1 (orf 6 short)), and SEQ ID NO:61 (SepC);
- (v) at least one of said Protein B and said Protein C is derived from a second taxonomic species that is different from said first taxonomic species;

- (vi) if said Protein B is derived from said second taxonomic species, then the amino acid sequence of said Protein B is less than 75% identical to the amino acid sequence of any protein known to be produced by said first taxonomic species; and
- (vii) if said Protein C is derived from said second taxonomic species, then the amino acid sequence of said Protein C is less than 75% identical to the amino acid sequence of any protein known to be produced by said first taxonomic species;

wherein a given protein is considered to be derived from a particular species if either the genome of that species contains a gene that encodes the protein or the given protein was designed by truncating or making conservative amino acid changes in the amino acid sequence of a protein encoded by a gene contained in the genome of that species; wherein a conservative amino acid change is replacing an amino acid of one class with an amino acid of the same class, wherein nonpolar-class amino acids are alanine, valine, leucine, isoleucine, proline, methionine, phenylalanine, and tryptophan, uncharged polar amino acids are glycine, serine, threonine, cysteine, tyrosine, asparagine, and glutamine, acidic amino acids are aspartic acid and glutamic acid, and basic amino acids are lysine, arginine, and histidine.

Claim 2 (original):

The method of claim 1 wherein said first and second taxonomic species are from different genera.

Claim 3 (original):

The method of claim 2 wherein said Protein A is derived from a *Photorhabdus* species and at least one of said Protein B and Protein C is derived from a *Xenorhabdus*, *Paenibacillus*, *Serratia* or *Pseudomonas* species.

Claim 4 (original):

The method of claim 2 wherein said Protein A is derived from a *Xenorhabdus* species and at least one of said Protein B and Protein C is derived from a *Photorhabdus*, *Paenibacillus*, *Serratia* or *Pseudomonas* species.

Claim 5 (original):

The method of claim 2 wherein at least one of said Protein A, Protein B, and Protein C is derived from a *Xenorhabdus* species and at least one of said Protein A, Protein B, and Protein C is derived from a *Photorhabdus* species.

Claim 6 (original):

The method of claim 2 wherein at least one of said Protein A, Protein B, and Protein C is derived from a *Photorhabdus* species and at least one of said Protein A, Protein B, and Protein C is derived from a *Xenorhabdus* species.

Claim 7 (original):

The method of claim 1 wherein:

- (i) Protein A is SEQ ID NO: 34(XptA2<sub>Xwi</sub>) or SEQ ID NO:21 (TcdA),
- (ii) Protein B is SEQ ID NO:45 (TcdB2), SEQ ID NO:40 (PptB1<sub>1529</sub>), or SEQ ID NO:49 (XptB1<sub>Xb</sub>), and
- (iii) Protein C is SEQ ID NO:47 (TccC3), SEQ ID NO:42 (PptC1<sub>1529</sub>-short), SEQ ID NO:43 (PptC1<sub>1529</sub>-long), or SEQ ID NO:51 (XptC1<sub>Xb</sub>).

Claim 8 (original):

The method of claim 5 wherein said Protein A has at least 40% identity with a protein selected from the group consisting of SEQ ID NO:14 (XptA1<sub>Xwi</sub>) and SEQ ID NO:34 (XptA2<sub>Xwi</sub>).

Claim 9 (original):

The method of claim 6 wherein said Protein A has at least 40% identity with a protein selected from the group consisting of SEQ ID NO:21 (TcdA) and SEQ ID NO:59 (TcbA).

Claim 10 (original):

The method of claim 8 wherein Protein B has at least 40% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:22, SEQ ID NO:40, SEQ ID NO:45, and SEQ ID NO:49, or Protein C has at least 35% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:25, SEQ ID NO:42, SEQ ID NO:47, and SEQ ID NO:51.

Claim 11 (original):

The method of claim 9 wherein Protein B has at least 40% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:18 and SEQ ID NO:40; or Protein C has at least 35% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:16 (XptB1<sub>wi</sub>) and SEQ ID NO:42.

Claim 12 (currently amended):

The method of claim 5 wherein said Protein A is encoded by a polynucleotide that ~~hybridizes~~ maintains hybridization under stringent conditions with a probe that is the full complement of a nucleic acid sequence that encodes an amino acid sequence selected from the group consisting of SEQ ID NO:14 (XptA1<sub>wi</sub>), SEQ ID NO:34 ~~and SEQ ID NO:20 (XptA2<sub>wi</sub>)~~, wherein said stringent conditions are 0.1X SSC and 0.1% SDS at 55° C.

Claim 13 (currently amended):

The method of claim 6 wherein said Protein A is encoded by a polynucleotide that ~~hybridizes~~ maintains hybridization under stringent conditions with a probe that is the full complement of a nucleic acid sequence that encodes the amino acid sequence shown in SEQ ID NO:21 (TcdA), wherein said stringent conditions are 0.1X SSC and 0.1% SDS at 55° C.

Claim 14 (currently amended):

The method of claim 8 wherein Protein B is encoded by a polynucleotide that ~~hybridizes~~ maintains hybridization under stringent conditions with a probe that is the full complement of a nucleic acid sequence that encodes an amino acid sequence selected from the group consisting of SEQ ID NO:22, SEQ ID NO:40, SEQ ID NO:45, and SEQ ID NO:49, or said Protein C is encoded by a polynucleotide that hybridizes under stringent conditions with a probe that is the full complement of a nucleic acid sequence that encodes an amino acid sequence selected from the group consisting of SEQ ID NO:25, SEQ ID NO:42, SEQ ID NO:47, and SEQ ID NO:51, wherein said stringent conditions are 0.1X SSC and 0.1% SDS at 55° C.

Claim 15 (currently amended):

The method of claim 9 wherein said Protein B is encoded by a polynucleotide that ~~hybridizes~~ maintains hybridization under stringent conditions with a probe that is the full complement of a nucleic acid sequence that encodes an amino acid sequence selected from the group consisting of SEQ ID NO:18 and SEQ ID NO:40, or said Protein C is encoded by a polynucleotide that ~~hybridizes~~ maintains hybridization under stringent conditions with a probe that is the full complement of a nucleic acid sequence that encodes an amino acid sequence selected from the group consisting of SEQ ID NO:16 (XptB1<sub>wi</sub>), and SEQ ID NO:42, wherein said stringent conditions are 0.1X SSC and 0.1% SDS at 55° C.

Claims 16-20 (Canceled).Claim 21 (new):

A method of controlling or inhibiting an insect wherein said method comprises contacting said insect with effective amounts of a Protein A, a Protein B, and a Protein C, wherein

said Protein A is a 230-290 kDa toxin complex insect toxin, wherein a polynucleotide A that encodes said Protein A maintains hybridization under stringent conditions with the full complement of a nucleic acid sequence A that encodes a *Xenorhabdus* Class A toxin complex insect toxin;

said Protein B is a 130-180 kDa toxin complex potentiator, wherein a polynucleotide B that encodes said Protein B maintains hybridization under stringent conditions with the full complement of a nucleic acid sequence B that encodes a Class B toxin complex potentiator;

said Protein C is a 90-120 kDa toxin complex potentiator, wherein a polynucleotide C that encodes said Protein C maintains hybridization under stringent conditions with the full complement of a nucleic acid sequence C that encodes a Class C toxin complex potentiator;

said Protein A has stand-alone toxin activity against an insect and said toxin activity is potentiated by said Protein B and said Protein C;

said Protein B and said Protein C potentiate the toxin activity of said Protein A;

at least one of said polynucleotide B and polynucleotide C does not maintain hybridization under stringent conditions with a nucleic acid sequence that encodes a *Xenorhabdus* toxin complex potentiator; and

wherein said stringent conditions are 0.1X SSC and 0.1% SDS at 55° C.

Claim 22 (new):

The method of claim 21 wherein said nucleic acid sequence A encodes an amino acid sequence selected from the group consisting of SEQ ID NO:14 (XptA1<sub>Xwi</sub>) and SEQ ID NO:34 (XptA2<sub>Xwi</sub>).

Claim 23 (new):

The method of claim 21 wherein nucleic acid sequence B encodes an amino acid sequence selected from the group consisting of SEQ ID NO:22 (TcdB), SEQ ID NO:40 (PptB1), SEQ ID NO:45 (TcdB2), and SEQ ID NO:49 (XptB1<sub>Xb</sub>).

Claim 24 (new):

The method of claim 21 wherein nucleic acid sequence C encodes an amino acid sequence selected from the group consisting of SEQ ID NO:25 (TccC), SEQ ID NO:42 (PptC1), SEQ ID NO:47 (TccC3), and SEQ ID NO:51 (XptC1<sub>x<sub>b</sub></sub>).

Claim 25 (new):

The method of claim 21 wherein said nucleic acid sequence A encodes SEQ ID NO:34 (XptA2<sub>x<sub>wi</sub></sub>), nucleic acid sequence B encodes SEQ ID NO:45 (TcdB2), and nucleic acid sequence C encodes SEQ ID NO:47 (TccC3).

Claim 26 (new):

A method of controlling or inhibiting an insect wherein said method comprises contacting said insect with effective amounts of a Protein A, a Protein B, and a Protein C, wherein

said Protein A is a 230-290 kDa toxin complex insect toxin, wherein a polynucleotide A that encodes said Protein A maintains hybridization under stringent conditions with the full complement of a nucleic acid sequence A that encodes a *Photorhabdus* Class A toxin complex insect toxin;

said Protein B is a 130-180 kDa toxin complex potentiator, wherein a polynucleotide B that encodes said Protein B maintains hybridization under stringent conditions with the full complement of a nucleic acid sequence B that encodes a Class B toxin complex potentiator;

said Protein C is a 90-120 kDa toxin complex potentiator, wherein a polynucleotide C that encodes said Protein C maintains hybridization under stringent conditions with the full complement of a nucleic acid sequence C that encodes a Class C toxin complex potentiator;

said Protein A has stand-alone toxin activity against an insect and said toxin activity is potentiated by said Protein B and said Protein C;

said Protein B and said Protein C potentiate the toxin activity of said Protein A;

at least one of said polynucleotide B and polynucleotide C does not maintain hybridization under stringent conditions with a nucleic acid sequence that encodes a *Photorhabdus* toxin complex potentiator; and wherein said stringent conditions are 0.1X SSC and 0.1% SDS at 55° C.

Claim 27 (new):

The method of claim 26 wherein said nucleic acid sequence A encodes an amino acid sequence selected from the group consisting of SEQ ID NO:21 (TcdA), SEQ ID NO:62 (TcdA2), SEQ ID NO:63 (TcdA4), and SEQ ID NO:59 (TcbA).

Claim 28 (new):

The method of claim 26 wherein nucleic acid sequence B encodes an amino acid sequence selected from the group consisting of SEQ ID NO:22 (TcdB), SEQ ID NO:40 (PptB1), SEQ ID NO:45 (TcdB2), and SEQ ID NO:49 (XptB1<sub>Xb</sub>).

Claim 29 (new):

The method of claim 26 wherein nucleic acid sequence C encodes an amino acid sequence selected from the group consisting of SEQ ID NO:25 (TccC), SEQ ID NO:42 (PptC1), SEQ ID NO:47 (TccC3), and SEQ ID NO:51 (XptC1<sub>Xb</sub>).

Claim 30 (new):

The method of claim 21 wherein said Class B toxin complex potentiator is from a *Photorhabdus*, *Paenibacillus*, *Serratia* or *Pseudomonas* species, and said Class C toxin complex potentiator is from a *Photorhabdus*, *Paenibacillus*, *Serratia* or *Pseudomonas* species.

Claim 31 (new):

The method of claim 26 wherein said Class B toxin complex potentiator is from a *Photorhabdus*, *Paenibacillus*, *Serratia* or *Pseudomonas* species, and said Class C toxin complex potentiator is from a *Photorhabdus*, *Paenibacillus*, *Serratia* or *Pseudomonas* species.